

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

24AT-135243

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on \_\_\_\_\_

Signature \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Application Number

10/661,847

Filed

September 12, 2003

First Named Inventor

Charles Edward Boardman et al.

Art Unit

3694

Examiner

Greene, Daniel Lawson

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

/Michael Tersillo/

Signature

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

Michael Tersillo

Typed or printed name

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☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

August 26, 2009

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below.

☒ \*Total of 2 forms are submitted.

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Boardman et al.	:	
	:	Art Unit: 3694
Serial No.: 10/661,847	:	
	:	Examiner: Greene, Daniel Lawson
Filed: September 12, 2003	:	
	:	
For: MODULAR REACTOR	:	
CONTAINMENT SYSTEM	:	

**ARGUMENTS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The rejection of Claims 1-4, 6-8, 10, 11, 13 and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over Challberg (U.S. Patent No. 6,813,327) in view of Sodergard (U.S. Patent No. 3,650,895) and further in view of Naka et al. (U.S. Patent No. 4,922,670) is respectfully traversed.

Challberg describes a nuclear reactor core plate assembly that includes a plurality of support beams, a single flat plate positioned on top of the support beams and a plurality of fuel supports positioned on top of the flat plate and extending through the flat plate. Challberg does not describe nor suggest at least one groove in the bottom surface of the flat plate, with the at least one groove extending along the bottom surface at a 45 degree angle with respect to the center axis where the center axis extends through opposing sides of the flat plate. The core plate of Challberg does not include any grooves.

Sodergard describes exchangeable control rod guide tubes for a nuclear reactor. The guide tubes are supported by the bottom of the reactor pressure vessel and carry square support blocks at the upper end of the guide tubes. The support blocks are arranged in an edge to edge relationship to form an even bottom for the reactor core. Sodergard does not describe nor suggest support beams coupled to a core shroud, nor that the support blocks include at least one groove in the bottom surface, with each groove sized to receive a portion of one of the support beams. Further, Applicants submit that, in contrast to the suggestion at page 16 of the Office Action, Figure 3 of Sodergard does not illustrate a groove on the bottom surface of block 8. The arrows in the illustration in the Office Action point to the gap between adjacent blocks 8 and not

to a groove in the bottom surface of block 8. In fact none of Figures 1-7 of Sodergard illustrate a groove on the bottom surface of block 8. Particularly, Sodergard does not describe nor suggest at least one groove in the bottom surface of block 8, with the at least one groove extending along the bottom surface at a 45 degree angle with respect to the center axis where the center axis extends through opposing sides of block 8.

Therefore, combining the teachings of Sodergard with the teachings of Challberg does not describe nor suggest "a plurality of removable support plates disposed on said plurality of support beams, each said removable support plate comprising a top surface, an opposing bottom surface, opposing sides, and a center axis extending through said opposing sides, and at least one groove in said bottom surface, each said groove extending along said bottom surface at a 45 degree angle with respect to said center axis, and sized to receive a portion of one of said support beams" as recited in independent Claims 1 and 13. Rather, Sodergard teaches that the plurality of support beams taught in Challberg are not needed, and that the Challberg core plate should be replaced with a plurality of blocks that are supported by the guide tubes. The Office Action asserts that it would be obvious to replace the Challberg core plate with a plurality of blocks and supporting the blocks with the plurality of support beams. However, as explained above, Challberg and/or Sodergard do not describe nor suggest at least one groove sized to receive a portion of one of the support beams, and each groove extending along the bottom surface of the block at a 45 degree angle with respect to the center axis.

Naka et al. describe a double flooring structure that is used in a floor of a computer room. Naka et al. do not describe nor suggest a removable support plate that includes at least one groove in the bottom surface, with each groove sized to receive a portion of one of the support beams. Rather, Naka et al. describe a computer room floor panel that includes a lip (step portion 14f) around the edge of the floor panel. Applicants submit that the lip described in Naka et al. is not a groove in the bottom surface of the floor panel. Even if, *arguendo*, one considered the step portions of Naka et al. as "grooves", these "grooves" extend around the perimeter of the floor panel and do not extend along the bottom surface at a 45 degree angle with respect to the center axis where the center axis extends through opposing sides of the panel. Applicants submit that Naka et al. teach away from utilizing grooves in the bottom surface of the support panels that are arranged at a 45 degree angle with respect to the center axis where the center axis extends

through opposing sides of the panel. Naka et al. teach a lip extending around the outer edges of the floor panel. Further, Applicants submit that one skilled in the nuclear reactor art would not consider the teachings of Naka et al. analogous nor useful in designing a nuclear reactor core because of the special requirements and environmental conditions that need to be taken into account in nuclear reactor design.

Therefore, combining the teachings of Naka et al. and Sodergard with the teachings of Challberg does not describe nor suggest "a plurality of removable support plates disposed on said plurality of support beams, each said removable support plate comprising a top surface, an opposing bottom surface, opposing sides, and a center axis extending through said opposing sides, and at least one groove in said bottom surface, each said groove extending along said bottom surface at a 45 degree angle with respect to said center axis, and sized to receive a portion of one of said support beams" as recited in independent Claims 1 and 13. In addition, Applicants disagree with the mere assertion, at pages 6 and 7 of the Office Action, that separating the core plate taught by Challberg into multiple support plates is a design choice as to the direction of the squares, and as such "it would have been obvious to separate the integral core plate in the manner proposed by applicant."

Further, Applicants submit that Challberg and/or Sodergard do not describe nor suggest any grooves in the bottom surface of the support plate (or support block in the case of Sodergard). Naka et al. teaches a lip extending around the perimeter of the floor panels; however, Naka et al. do not describe nor suggest at least one groove in the bottom surface of the floor panel. *Applicants submit that none of the references cited in this rejection describe or suggest at least one groove in the bottom surface of a nuclear reactor core support plate.* Applicants submit that the teachings of the cited references do not coincide with the assertions presented in the Office Action.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. It appears that the present rejection reflects an impermissible attempt to use the instant claims as a guide or

roadmap in formulating the rejection using impermissible hindsight reconstruction of the invention. Applicants respectfully submit that the teachings of Challberg, Sodergard and Naka et al. are isolated disclosures that have been chosen in an attempt to deprecate the present invention. Challberg teaches a nuclear reactor that has a core plate supported by a plurality of support beams. Sodergard teaches a nuclear reactor that has a plurality of support blocks supported by the guide tubes rather than a core plate supported by a plurality of support beams. Naka et al. teaches a computer room floor that has a plurality of floor panels positioned on beams with a circumferential lip of the floor panels resting on the beams. None of the cited references teach at least one groove in the bottom surface of the core plate/support blocks/floor panels, and the teachings of the cited references do not describe nor suggest all the limitations of independent Claims 1 and 13. Of course, such a combination of references is impermissible, and for this reason along with the reasons explained above, Applicants request that the Section 103 rejection be withdrawn. Accordingly, Applicants submit that independent Claims 1 and 13 are patentable over Challberg in combination with Sodergard and Naka et al.

Claims 2-4, 6-8, 10, and 11 depend from independent Claim 1 and Claims 15-18 depend from independent Claim 13. When the recitations of Claims 2-4, 6-8, and 10-11, and Claims 15-18 are considered in combination with the recitations of Claims 1 and 13 respectively, Applicants respectfully submit that dependent Claims 2-4, 6-8, 10-11, and 15-18 likewise are patentable over Challberg in combination with Sodergard and Naka et al.

The rejection of Claims 19 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Challberg (U.S. Patent No. 6,813,327) in view of Sodergard (U.S. Patent No. 3,650,895), and further in view of Naka et al. (U.S. Patent No. 4,922,670), and still further in view of Dalke et al. (U.S. Patent No. 5,519,746) is respectfully traversed.

As explained above, Challberg, Sodergard, and Naka et al., alone or in combination, do not describe nor suggest a nuclear reactor as recited in Claim 13. Particularly, Challberg, Sodergard, and Naka et al., alone or in combination, do not describe nor suggest "a plurality of removable support plates disposed on said plurality of support beams, each said removable support plate comprising a top surface, an opposing bottom surface, opposing sides, and a center axis extending through said opposing sides, and at least one groove in said bottom surface, each

said groove extending along said bottom surface at a 45 degree angle with respect to said center axis, and sized to receive a portion of one of said support beams” as recited in independent Claim 13.

Dalke et al. is cited for teaching an inter-bundle support plate 140. Dalke et al. is not cited for and do not teach a plurality of removable support plates disposed on the plurality of support beams, each removable support plate including a top surface, an opposing bottom surface, opposing sides, and a center axis extending through the opposing sides, and at least one groove in the bottom surface, each said groove extending along said bottom surface at a 45 degree angle with respect to said center axis, and sized to receive a portion of one of said support beams. As explained above, Challberg, Sodergard, and Naka et al., alone or in combination, do not describe nor suggest such a structure.

Therefore, combining the teachings of Sodergard, Naka et al., and Dalke et al. with the teachings of Challberg does not describe nor suggest all the recitations of independent Claim 13. Accordingly, Applicants submit that independent Claim 13 is patentable over Challberg, Sodergard, Naka et al., and Dalke et al., alone or in combination.

Claims 19 and 20 depend from independent Claim 13. When the recitations of Claims 19 and 20 are considered in combination with the recitations of Claim 13, Applicants respectfully submit that dependent Claims 19 and 20 likewise are patentable over Challberg, Sodergard, Naka et al., and Dalke et al., alone or in combination.

In view of the remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,

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